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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/934,013	08/21/2001	Timothy Tang	PD-201082	7564

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Hughes Electronics Corporation  
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P.O. Box 956  
El Segundo, CA 90245-0956

EXAMINER	
BRAGDON, REGINALD GLENWOOD	
ART UNIT	PAPER NUMBER

2188

DATE MAILED: 12/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/934,013

Applicant(s)

TANG, TIMOTHY

Examiner

Reginald G. Bragdon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 September 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-61 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-61 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 September 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to because in figure 1, the replacement sheet is not marked as a "Replacement Sheet" as required by 37 CFR 1.84(c).
2. Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. ***The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures.*** If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Claim Objections*

3. Claims 12, 35, and 47-54 are objected to because of the following informalities:  
As per claim 12, line 3, delete "master" before "content".  
As per claim 35, line 1, add --wherein-- before "the content".

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As per claim 47, line 10, change “received” to --transmitted--.

All dependent claims are objected to as having the same deficiencies as the claims they depend from.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claim 6, it is not clear how the “analyzing step” can “prioritize...second content” since the “second content” is not retrieved until after the master profile is created, which is after the “analyzing step”.

6. Claims 1-46 and 55-61 are rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention. Evidence that claims 1-61 fail(s) to correspond in scope with that which applicant(s) regard as the invention can be found in the reply filed 28 September 2004. In that paper, applicant has stated the claims include the limitations of generating the profile at a first cache engine and transmitting to a second cache engine and this statement indicates that the invention is different from what is defined in the claim(s) because these limitations are not present in independent claims 1, 9, 16, 24, 32, 39, and 55.

***Claim Rejections - 35 USC § 101***

7. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. Claims 47-61 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

In claims 47-61, Applicant sets forth a “computer readable medium”. In supporting this language in the specification, Applicant sets forth on page 19, paragraph [66], that a computer readable medium includes “transmission media”, such as “coaxial cables, copper wire and fiber optics”, “acoustic, optical, or electromagnetic waves, such as those generated during radio frequency (RF) and infrared (IR) data communications”, and “a carrier wave”. Therefore, giving claim 47 (for example) a reasonable interpretation consistent with the specification, a “computer readable medium” could embody transmission media.

However, communication or transmission media, such as those set forth by the Applicant in the specification, are not tangible. A communication medium, such as a carrier wave, cannot tangibly embody a computer program or process since a computer cannot understand/realize (i.e. execute) the computer program or process when embodied on the communication medium. Computer programs or processes are only realized within the computer when stored in a memory or storage element (such as RAM or ROM). Therefore, a communication medium does not meet the “useful, concrete, and tangible” requirement as set forth in *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601-02, and hence claims 47-61 are not statutory under 35 U.S.C. 101.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1-2, 4-10, 12-17, 19-25, 27-33, 35-40, 42-46, 55-56, and 58-61 are rejected under 35 U.S.C. 102(e) as being anticipated by Malkin et al. (6,085,193).

As per claims 1, 9, 24, 32, 39, and 55, Malkin et al. teaches, with reference to figure 3A, identifying data access patterns at content and proxy servers (“analyzing a traffic stream for content”), wherein the servers have processors (elements 260 and 280). See step 102. Prefetch hint information (PHI) is created at the content server 20 based on the data reference patterns identified (“outputting a profile...the profile is used to prepare a master profile” or “receiving a profile” and “generating a master profile”). See step 104 and column 8, lines 38-52. The sending node (i.e. content server) sets the initial PHI (i.e. “master profile”). See column 8, lines 64-65. Based on the PHI, information is prefetched (“caching content that is associated with the master profile”) into a cache. See column 9, lines 3-9, and step 108 of figure 3A; column 3, lines 39-42; and column 6, lines 34-36.

As per claim 16, Malkin et al. teaches, with reference to figure 3A, identifying data access patterns at content and proxy servers (“analyze a traffic stream for content”). See step 102. Prefetch hint information (PHI) is created at the content server 20 based on the data reference patterns identified (“output a first profile...”). See step 104 and column 8, lines 38-52.

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The sending node (i.e. content server) sets the initial PHI (i.e. “first profile”). See column 8, lines 64-65. A receiving node may derive a final PHI (“generate a second profile based on the first profile...”) from the initial PHI. See column 8, lines 66-67. Based on the PHI, information is prefetched. See column 9, lines 3-9, and step 108 of figure 3A.

As per claims 2, 10, 17, 25, 33, 40, and 56, Malkin et al. teaches that the network 25 is the Internet, which is a wide area network (WAN).

As per claim 4, 12, 19, 27, 35, 42, and 58, Malkin et al. teaches prefetching at column 9, lines 3-9, wherein prefetching is pre-loading a cache memory with data before the data is actually requested using the final PHI.

As per claims 5, 13, 20, 28, 36, 43, and 59, Malkin et al. teaches updating a statistics table 261, which results in updating of the PHI, including the initial PHI, which further results in the cache memory being updated (“periodically refreshing the cache with content of a new master profile”). See column 14, lines 13-25 and 48-59, and figures 5 and 6.

As per claims 6, 14, 21, 29, 37, 44, and 60, Malkin et al. teaches prioritizing the prefetch list based on the access probability of the object (i.e. popularity). See column 15, line 61, to column 16, line 8.

As per claims 7, 15, 22, 30, 38, 45, and 61, Malkin et al. teaches that no extra content is added to the PHI as it travels from the content sever down through the proxy servers and therefore the PHI is restricted to objects that are associated with the initial PHI.

As per claims 8, 23, 31, and 46, Malkin et al. teaches that the initial PHI can be supplied from the content provider based on knowledge of object relationships (i.e. “content

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communities”) such as patches and upgrades, JAVA classes, and GIFs. See column 11, lines 50-56.

11. Claims 1-4, 7-12, 15, 24-27, 30, 32-35, 38-42, 45-46, 55-58, and 61 are rejected under 35 U.S.C. 102(e) as being anticipated by Carneal et al. (6,282,542).

As per claims 1, 9, 24, 32, 39, and 55, Carneal et al. teaches a prefetch method over a network. As shown in figure 7, element 92, a satellite gateway parses a parent file for inline object references (“analyzing...”). See also column 8, lines 30-41. A list of prefetch objects is generated based on the parsing (“generating...master profile”). See also column 8, lines 41-43. The list is used to prefetch objects and store the objects at an access point object cache 71 (“caching...”). See column 7, lines 64-65, and column 8, lines 57-59.

As per claims 2-3, 10-11, 25-26, 33-34, 40-41, and 56-57, Carneal et al. teaches an internet satellite link connection, which is a satellite wide area network.

As per claim 4, 12, 27, 35, 42, and 58, Carneal et al. teaches prefetching at column 7, lines 64-65, wherein prefetching is pre-loading a cache memory with data before the data is actually requested using the prefetch object list.

As per claims 7, 15, 30, 38, 45, and 61, Carneal et al. teaches that no extra content is added to the prefetch list and therefore access is restricted to objects on the prefetch object list.

As per claims 8, 31, and 46, Carneal et al. teaches grouping of prefetching based on the type of objects to be prefetched (“content communities”) at column 13, lines 8-26.



***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 3, 11, 18, 26, 34, 41, and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malkin et al. in view of Carneal et al.

As per claims 3, 11, 18, 26, 34, 41, and 57, Malkin et al. doesn't teach that the Internet WAN is a satellite WAN. Carneal et al. teaches an internet access system that includes a satellite link and prefetching of data over the satellite link. See column 3, lines 12-14, and figure 3. It would have been obvious to one of ordinary skill in the art to implement a satellite link in the network of Malkin et al, as suggested by Carneal et al., because Carneal et al. teaches that regular telephone lines have a limited bandwidth and that satellite links would alleviate this problem (see column 4, lines 56-64). Satellite links also relieve the burden of the physical implementation of "laying out" telephone or other hardwire connections over vast distances.

***Response to Arguments***

14. Applicant's arguments filed 28 September 2004 have been fully considered but they are not persuasive.

Applicant's arguments (for both Malkin et al. and Carneal et al.) with respect to claim 1 are not persuasive since the limitations that Applicant states are present in claim 1 (bottom of page 14 of the response) are not in claim 1. For example, Applicant states that the profile is

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generated at a first cache engine and transmitted to a second cache image. However, there is no such limitation in claim 1. Applicant further states that claim 1 sets forth “generating a master profile, retrieving second tier content associated with the master profile, and transmitting the second tier content to the first cache engine” (page 15, first full paragraph, of the response). However, these limitations are also not found in claim 1.

Applicant’s arguments with respect to claims 9-46 and 55-61 are not persuasive since the scope of these claims differ from the scope of claim 1 (and 47), and therefore the arguments set forth with respect to claim 1 are not necessarily relevant to other claims. For example, claim 39 has a much broader scope than claim 1 and the limitations Applicant argues with respect to claim 1 are not found in claim 39.

### ***Conclusion***

15. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

All “OFFICIAL” patent application related correspondence transmitted by FAX must be directed to the central FAX number at **(703) 872-9306**:

“INFORMAL” or “DRAFT” FAX communications may be sent to the Examiner at **(571) 273-4204**, only after approval by the Examiner.

Hand-delivered responses should be brought to Crystal Park II, 2121  
Crystal Drive, Arlington, VA., Fourth Floor (receptionist).

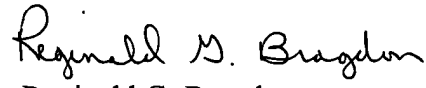
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16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reginald G. Bragdon whose telephone number is (571) 272-4204. The examiner can normally be reached on Monday-Thursday from 7:00 AM to 4:30 PM and every other Friday from 7:00 AM to 3:30 PM.

The examiner's supervisor, Mano Padmanabhan, can be reached at (571) 272-4210.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

RGB  
November 30, 2004

  
Reginald G. Bragdon  
Primary Patent Examiner  
Art Unit 2188